

### REMARKS

Claims remaining in the present patent application are numbered 1-26. Claims 6, 7, 23, and 24 have been amended. The rejections and comments of the Examiner set forth in the Office Action dated November 22, 2004 have been carefully considered by the Applicants. Applicants respectfully request the Examiner to consider and allow the remaining claims.

### Specification

The specification has been objected to for grammatical informalities. Specifically, the word "are" should be "is" on page 7, line 25. Applicants have herein amended the specification to change the word "are" to the word "is" on page 7, line 25. As such, Applicants respectfully contend that the informality objected to is moot at this time.

### 35 U.S.C. §112 Rejection

The present Office Action rejected claims 5-9, 11-12, 14, 16, and 22-26 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Applicants respectfully assert that the specification sufficiently describes the subject matter of claims 5-9, 11-12, 14, 16, and 22-26 in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In addition, the present Office Action rejected 5-9, 11-12, 14, 16, and 22-26 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully assert that Claims 5-9, 11-12, 14, 16, and 22-26 particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Regarding Claims 5 and 22, the present Office Action objected to Claims 5 and 22 under 112, first paragraph, as not providing implementation details in the specification as to determining a "least cost" and determining an "information capacity cost." Applicants respectfully direct the Examiner to the paragraph beginning on line 6, page 24, which describes the least cost and information capacity cost criteria adequately describes the subject matter of the present invention to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. Specifically, Claims 5 and 22 are directed to the selection of a node transformation sequence that transforms a source node to a candidate node that has the least cost associated with it. The candidate node is selected from a plurality of candidate nodes, each of which is associated with a cost. The cost is a measurement of lost data when

transforming from the source node to the associated candidate node using the transformation sequence. As such, the transformation sequence used to transform the source node to the candidate node that is associated with the least cost is selected. In addition, Claims 5 and 22 have been amended so that the term "information capacity cost" is not included. As such, Claims 5 and 22 of the present invention have overcome the 112, first paragraph, rejection, and are in a position for allowance. In addition, Claims 6-9, which depend from Claim 5, and Claims 22-26, which depend from Claim 22, also overcome the 112, first paragraph, rejection, and are in a position for allowance.

Also, the present Office Action objected to Claims 5 and 22 under 112, second paragraph, as being ambiguous. Claims 5 and 22 have been amended to recite that a selected node transformation sequence is selected with "a least cost of data loss" to overcome the 112, second paragraph objection. As such, Claims 5 and 22 of the present invention have overcome the 112, second paragraph, rejection, and are in a position for allowance. In addition, Claims 6-9, which depend from Claim 5, and Claims 22-26, which depend from Claim 22, also overcome the 112, second paragraph, rejection, and are in a position for allowance.

Regarding Claims 6 and 23, the present Office Action rejected Claims 6 and 23, under 112, first paragraph, as providing no implementation details to determine a "cost of data loss." However, in analogous arguments presented above, Applicants respectfully assert that the "cost of data loss" is adequately described in the present Specification to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the cost of data loss is a measurement of lost data when transforming from the source node to the associated candidate node using the transformation sequence. Further, an example illustrating the cost of data loss is described beginning at line 6, page 27. As such, Claims 6 and 23 of the present invention have overcome the 112, first paragraph, rejection, and are in a position for allowance. In addition, Claims 7, which depends from Claim 6, and Claim 24, which depends from Claim 23, also overcome the 112, first paragraph, rejection, and are in a position for allowance.

Also, dependent Claims 6 and 23 were rejected as reciting language "high quality" that renders the claim scope ambiguous. Applicants have amended Claims 6 and 23 to delete the term "high quality." As such, Claims 6 and 23 overcome the 112, second paragraph rejection, and Claim 7, which depends from Claim 6, and Claim 24, which depends

from Claim 23, also overcome the 112, second paragraph, rejection, and are in a position for allowance.

As to dependent Claims 7 and 24, the present Office Action rejected Claims 7 and 24 under 112, first paragraph as providing no implementation details for determining how labels are synonymous. Applicants respectfully direct the Examiner to the paragraph beginning on line 15, page 29 as describing "synonym knowledge" that is provided, and to the paragraph beginning on line 21, page 10 that describes the implementation of a synonym dictionary for determining how labels are synonymous. As such, Claims 7 and 24 overcome the 112, first paragraph, rejection and are in a position for allowance.

In addition, dependent Claims 7 and 24 were rejected under the present Office Action under 112, first paragraph for being ambiguous as to reciting identical or synonymous labels. Applicants have herein amended Claims 7 and 24 to recite only the synonymous labels and not the "identical" labels. As such, Claims 7 and 24 overcome the 112, second paragraph, rejection and are in a position for allowance.

As to dependent Claim 11, the present Office Action rejected Claim 11 under 112, first paragraph, as providing no implementation details for determining a "least associated cost of information capacity." In addition, the

present Office Action rejected Claim 11, under 112, second paragraph, as not adequately defining the terms "least associated cost of data loss" in the specification. Applicants have herein amended Claim 11 so that a node transformation operation is selected having the "least cost of data loss." As such, Claim 11 overcomes the 112, first and second paragraph, rejections and is in a position for allowance.

As to dependent Claim 14, the present Office Action rejected Claim 14 as not adequately defining the term "folding nodes" in the specification. Applicants respectfully direct the Examiner to page 16 where "fold" and "unfold" operations are described, and the paragraph beginning on line 31 of page 22 describing a fold operation, both of which particularly point out and describe the invention to enable a person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. As such, Claim 14 overcomes the 112, first and second paragraphs, rejections and is in position for allowance.

As to dependent Claim 16, the present Office Action rejected Claim 16 under 112, first paragraph, as not providing implementation details as to performing a "relabel operation" and an "unfold operation" and for determining a "qmark quantifier node." In addition, the

present Office Action rejected Claim 16 under 112, second paragraph, as not adequately defining the terms "relabel operation," and "unfold operation," and a "qmark quantifier node" in the specification. Applicants respectfully direct the Examiner to page 15 where the "relabel operation" is fully described to enable a person skilled in the art to implement the invention. In addition, Applicants respectfully direct the Examiner to pages 16 and 22 where the "fold operation" is fully described to enable a person skilled in the art to implement the invention. In addition, Applicants respectfully direct the Examiner to page 12 where the "qmark quantifier node" is fully described to enable a person skilled in the art to implement the invention. As such, Claim 16 overcomes the 112, first and second paragraphs, rejections and is in position for allowance.

#### 35 U.S.C. §102 Rejection

The present Office Action rejected Claims 1, 3-15, 18, and 20-26 under 35 U.S.C. 102(a) as being anticipated by Jeong et al. ("Induction of Integrated View for XML Data with heterogeneous DTDs", CIKM '01, Nov. 5-10, 2001, ACM 1-581 (13-436-3/01/0011), pp. 151-158, hereafter referred to as "Jeong et al."). Applicants have reviewed the above cited references and respectfully submit that the present invention as recited in Claims 1, 3-15, 18, and 20-26, is

neither anticipated nor rendered obvious by the Jeong et al. reference.

Independent Claims 1, 10 and 18

Applicants respectfully point out that independent Claim 1, 13 and 19 each recite that the present invention includes methods for document transformation.

Specifically, independent Claims 1 and 18, each recite, in part:

[A] method of document transformation comprising:

- a) modeling a source XML document corresponding to a source schema as a source tree having a plurality of source nodes;
- b) modeling a target XML document corresponding to a target schema as a target tree having a plurality of target nodes; and
- c) generating a sequence of transformation operations that transforms said source tree to said target tree.

Additionally, independent Claim 10 recites, in part:

[A]method of document transformation comprising:

- a) modeling a source schema of XML and a target schema of XML as a tree structure creating a source tree and a target tree, said source tree having a plurality of source nodes, said target tree having a plurality of target nodes; and
- b) generating a sequence of transformation operations that transforms said source XML document to said target XML document, wherein said plurality of source nodes of said source



schema are matched and transformed to said plurality of target nodes in said target schema.

The present invention pertains to methods and systems for document transformation between a source XML schema and a target XML schema. In particular, independent Claims 1, 10, and 18 recite that a sequence of transformation operations are generated that transforms a source tree representing a source XML document to a target tree representing a target XML document, or transforming a source XML document to a target XML document.

Applicants respectfully note that the prior art reference, Jeong et al., does not teach nor suggest the present methods for document transformation between a source XML schema and a target XML schema, as claimed in independent Claims 1, 10, and 18 of the present invention. Applicants hereby respectfully assert that the Jeong et al. reference can be antedated under 37 CFR 1.131 and is disqualified as prior art under 102(a).

Applicants respectfully note that the Jeong reference is a printed publication described in this or a foreign country before the invention thereof by the Applicants for patent. The earliest effective filing date of the Jeong et al. reference November 4, 2001. The present invention was conceived of and reduced to practice at least as early as

March 15, 2001. A declaration attesting to this is being filed concurrently with the instant response.

Specifically, a copy of a cover sheet on the HP Invention Disclosure for the present Application is presented in Exhibit A of the declaration with a received date of March 19, 2001. The HP Invention Disclosure is directed to the discovery of transformation operations between two XML schemas of the present Application.

In addition, a copy of the signature page for witnesses for the HP Invention Disclosure illustrating a signature of a witness, Umeshwar Dayal, dated as early as March 15, 2001 is offered in Exhibit B in the declaration. The witness signature is from the same HP Invention Disclosure that was signed by the inventors, thereby demonstrating that the reduction to practice occurred at least as early as March 15, 2001.

Also, the present invention was reduced to practice at least as early as March 15, 2001. A copy of the first page of the description of the invention from the HP Invention Disclosure showing that the present invention was reduced to practice is offered as Exhibit C in the declaration. The first page is from the same HP Invention Disclosure that was signed by the witness, Umeshwar Dayal, as early as March 15, 2001 (see Exhibit B of the declarataion), thereby

demonstrating that the reduction to practice occurred at least as early as March 15, 2001.

Accordingly, the present invention as recited in Claims 1, 10, and 18 is neither anticipated nor rendered obvious by the now disqualified Jeong et al. reference.

As such, the present invention as recited in Claims 1, 10, and 18 is neither anticipated nor rendered obvious by the Jeong et al. reference and is in a condition for allowance. In addition, Applicants respectfully submit that Claims 2-9 which depend from independent Claim 1 are also in a condition for allowance as being dependent on an allowable base claim. Also, Applicants respectfully submit that Claims 11-17 which depend from independent Claim 10 are also in a condition for allowance as being dependent on an allowable base claim. Further, Applicants respectfully submit that Claims 19-26 which depend from independent Claim 18 are also in a condition for allowance as being dependent on an allowable base claim.

#### 35 U.S.C. §103 Rejection

The present Office Action rejected Claims 2, 17, and 19 under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. in view of Geiger (U.S. Patent Application Publication No. 2002/0112048). Also, Claim 16 is rejected

under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. in view of the "Oracle 9i XML Reference, Release 1 (9.0.1)" (Part No. A88899-01, Oracle Corp., Redwood city, CA, June 2001, pp. i to x and 1-30 to 1-33).

Applicants have reviewed the above cited references and respectfully submit that the present invention as recited in Claims 2, 17, 16, and 19 is neither anticipated nor rendered obvious by the Jeong et al. reference taken alone or in combination with the Geiger et al., and Oracle 9i XML references.

Applicants respectfully submit that the present invention as disclosed in dependent Claims 2, 17, 16, and 19 are not anticipated by the Jeong et al. reference, taken alone or in combination with the Geiger et al., and Oracle 9i XML references since they depend on allowable base Claims 1, 10, and 18, as previously discussed. As such, dependent Claims 2, 17, 16, and 19 are in a condition for allowance as being dependent on allowable base claims, 1, 10, and 18.

#### CONCLUSION

In light of the amendments and arguments presented herein, Applicants respectfully request reconsideration of the rejected Claims for allowance thereof.

Based on the arguments presented above, Applicants respectfully assert that Claims 1-26 overcome the rejections of record. Therefore, Applicants respectfully solicit allowance of these Claims.

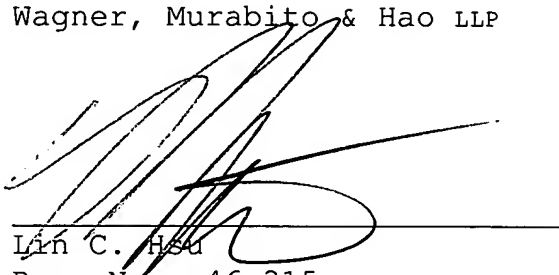
The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

Wagner, Murabito & Hao LLP

Date: \_\_\_\_\_

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\_\_\_\_\_  
Lin C. Hsu  
Reg. No.: 46,315  
Two North Market Street  
Third Floor  
San Jose, California 95113